



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,760	12/14/2001	Je Young Chang	42390P13008	2534

7590

01/24/2006

John P. Ward
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

PATEL, NIHIR B

ART UNIT

PAPER NUMBER

3743

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,760	CHANG ET AL.	
	Examiner	Art Unit	
	Nihir Patel	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11.18.2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,13 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,13 and 19-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed on 11.18.2005 have been fully considered but they are not persuasive. In reference to claims 1 and 13, the applicant argues that Furuya does not disclose or suggest a dissipater section having a size of at least a surface area of an absorber section. The examiner disagrees. Figure 5 of Furuya patent shows that the dissipater section having a size of at least a surface area of an absorber section. The applicant argues that Furuya does not disclose or suggest a plurality of fins formed of a second end of a base, the plurality of fins attached to a bottom surface of a dissipater section, the fins having a length approximately equal to the width of the base. The examiner disagrees. Figure 5 of Furuya patent shows that plurality of fins formed of a second end of a base, the plurality of fins attached to a bottom surface of a dissipater section, the fins having a length approximately equal to the width of the base.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims **1 and 13** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 13 contains subject matter (“...**the fins having a length approximately equal to the width of the base...**”) was not described in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

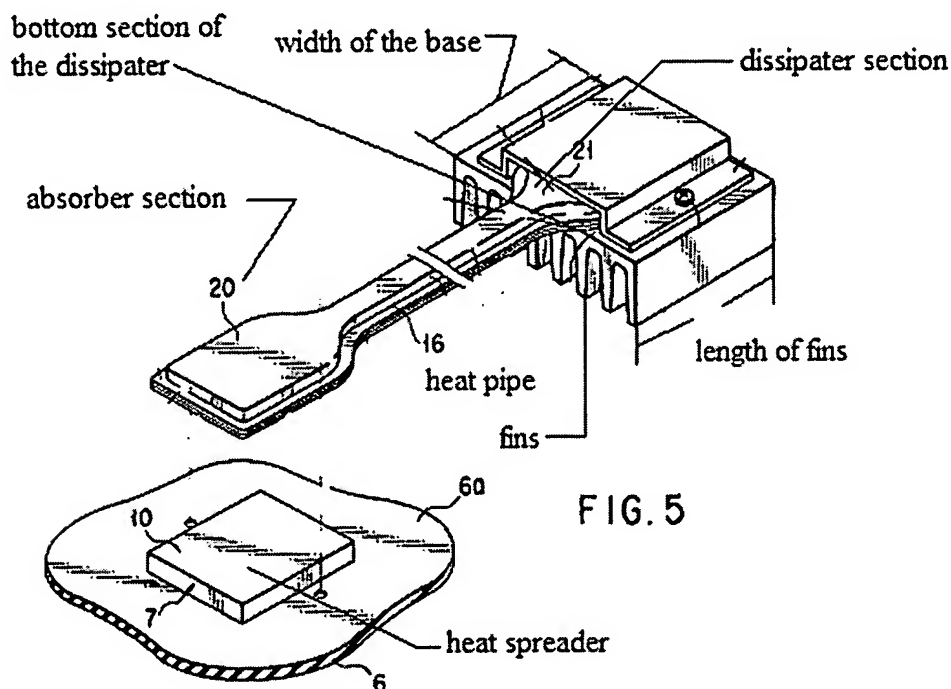
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims **1, 13, 19, 20, 22 through 26, 28 and 29** are rejected under 35 U.S.C. 102(e) as being anticipated by Furuya (US 6,504,720). **Referring to claim 1**, Furuya discloses an apparatus that comprises an absorber section **20 (see figure 5 and column 6 lines 35-40)** of a heat pipe **16 (see figure 5 and column 6 lines 30-35)** attached to a first end of a base of the heat pipe to remove heat from a heat spreader, wherein the absorber section having a size of at least a surface area of the heat spreader **(see figure 5)**; and a dissipater section **21 (see figure 5 and column 6 lines 35-40)** of the heat pipe, wherein a width of the dissipater section is greater than the width of the heat pipe, and the dissipater section having a size of at least a surface area of the absorber section **(see figure 5)**; and a plurality of fins formed of the second end of the base, the plurality of fins attached to a bottom surface of the dissipater section, the fins having a length approximately equal to the width of the base **(see figure 5)**.

Referring to claim 13, Furuya discloses an apparatus that comprises a central processing unit **9 (see figure 2 and column 6 lines 10-15)**; a heat absorber **20 (see figure 5 and column 6 lines 35-40)** attached to a first end of a heat pipe **16 (see figure 5 column 6 lines 30-35)** and having a size of at least a surface area of the heat spreader **(see figure 5)**; a heat dissipater **21 (see figure 5 and column 6 lines 35-40)** attached to a second end of the base of the heat pipe,

wherein a width of the heat dissipater is greater than a width of the base of the heat pipe (see **figure 5**), and the heat dissipater having a size of at least a surface area of the heat absorber (see **figure 5**); and a plurality of fins formed on the second end of the base, the plurality of fins attached to a bottom surface of the heat dissipater, the plurality of fins having a length approximately equal to the width of the base (see **figure 5**).



Referring to claims 19 and 23, Furuya discloses an apparatus wherein the absorber section and the base of the heat pipe are formed of thermally conductive material selected from the group including copper, a copper hollow, and aluminum (see **column 6 lines 35-40**).

Referring to claims 20 and 24, Furuya discloses an apparatus wherein the heat absorber is attached to the heat spreader by a thermal interface material (see **column 8 lines 20-40**).

Referring to claim 22, Furuya discloses an apparatus wherein the absorber section and the dissipater section are the same size (**see figure 5**).

Referring to claim 25, Furuya discloses an apparatus wherein the heat absorber removes heat from the heat spreader (**see column 6 lines 35-40**).

Referring to claims 26 and 29, Furuya discloses an apparatus that further comprises a fan to direct air across at least one of the plurality of fins and the base of the heat pipe to dissipate heat produced by the CPU.

Referring to claim 28, Furuya discloses an apparatus wherein the absorber section removes heat from the heat spreader (**see figure 5**).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **21 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuya (US 6,504,720) in view of Chao et al. (US 5,412,535). **Referring to claims 21 and 27**, Furuya

discloses the applicant's invention as claimed with the exception of providing plurality of fins that are formed of a thermally conductive material selected from the group including copper, a copper alloy and aluminum. Chao discloses an apparatus that does provide plurality of fins that are formed of a thermally conductive material selected from the group including copper, a copper alloy and aluminum. Therefore it would have been obvious to modify Furuya's invention by providing plurality of fins that are formed of a thermally conductive material selected from the group including copper, a copper alloy and aluminum as taught by Chao in order to improve the heat transfer process.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

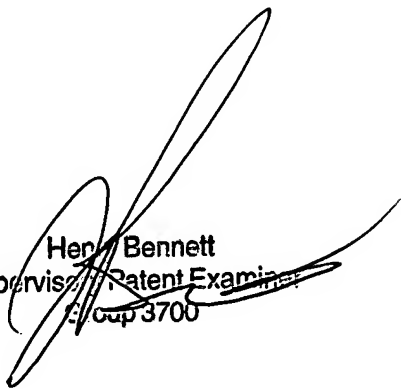
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nihir Patel whose telephone number is (571) 272-4803. The examiner can normally be reached on 7:30 to 4:30 every other Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on (571) 272-4791. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nihir Patel
January 12th, 2005



Henry Bennett
Supervisor/Patent Examiner
C/cup 3700